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AB   We developed a time-resolved-fluoro-immunoassay to measure cortisol
     binding globulin (CBG) in serum. It is a microtitre plate, solid phase,
     reagent excess, **sandwich** assay in which the same polyclonal
     antiserum is used as a source of **capture** and **labeled**
     antibodies. The results of this assay were shown to be reliable
     and were fully comparable with those obtained by a commercially available
     kit. As a reflection of the free cortisol concentration we measured
     cortisol and CBG concentrations in serum and calculated the Free Cortisol
     Index (FCI) = [cortisol]serum/[CBG]serum.100. The clinical use of this
     parameter, as a screening test for disturbances of the pituitary-adrenal
     axis, was investigated in different groups of subjects: healthy men and
     women, women using oral contraceptives, pregnant women at term, patients
     with thyroidal illnesses, patients using anti-epileptic drugs and patients
     suffering from adrenal diseases. In a number of groups we compared the
     FCI results with measurements of cortisol in saliva, another parameter
     used as an estimate of the concentration of free cortisol in blood. Our
     conclusion is that the FCI, in contrast to a total cortisol measurement
     alone, can prevent unnecessary further testing.